Technical Publication Transfer

Using:

Northrop Corporation's Data

MIL-D-28000A (IGES)
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)
MIL-D-28003 (CGM)

Quick Short Test Report

10 June 1993

1996 0822 162

Prepared for

[DTIC QUALITY INSPECTED 3

Electronic Systems Center

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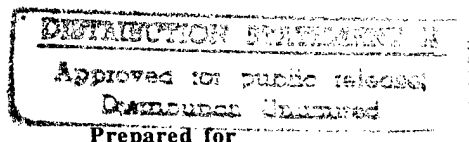
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Quick Short Test Report

10 June 1993

Prepared By
Air Force CALS Test Bed
Wright-Patterson AFB, OH 45433

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AFCTN Contact
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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards in transferring technical publication data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan:	AFCTB 93-062
Date of Evaluation:	10 June 1993
Evaluator:	George Elwood Air Force CALS Test Bed DET 2 HQ ESC/ENCP 4027 Colonel Glenn Hwy Suite 300 Dayton OH 45431-1672
Data Originator:	John P Kent Northrop Corporation B-2 Division, L591/UB 8900 East Washington Blvd Pico Rivera CA 90660-3765 (310) 948-0624
Data Description:	Technical Manual Test 2 Document Declaration files 2 Document Type Definitions (DTD) 1 Initial Graphics Exchange Specification (IGES) file 2 Text files 1 Raster file 1 Computer Graphics Metafile (CGM) file

**Data
Source System:**

1840

HARDWARE

Unknown

SOFTWARE

Unknown

IGES

> **HARDWARE**
>> Unknown
>
> **SOFTWARE**
>> Unknown

Text/Standard Generalized Markup Language (SGML)

> **HARDWARE**
>> Unknown
>
> **SOFTWARE**
>> Unknown

Raster

> **HARDWARE**
>> Unknown
>
> **SOFTWARE**
>> Unknown

CGM

> **HARDWARE**
>> Unknown
>
> **SOFTWARE**
>> Unknown

Evaluation Tools Used:

> **MIL-STD-1840A (TAPE)**
>> SUN 3/280
>>> AFCTN *Tapetool v1.2.8 UNIX*
>>> XSoft *CAPS/CALS v40.4*
>>> Texas Instruments (TI) *Tapetool v1.0.1*
>> PC 486/50
>>> AFCTN *Tapetool v1.2.9 DOS*

> **MIL-D-28000 (IGES)**
>> Sun SparcStation 2
>>> ArborText *iges2draw*
>>> Carberry *CADLeaf Plus v3.1*
>>> IGES Data Analysis (IDA) *Parser/Verifier v93*
>>> IDA *IGESView v3.05*
>> PC 486/50
>>> AUTODESK *AutoCAD 386 R12*

MIL-M-28001 (SGML)
PC 486/50
Datalogics *ParserStation v3.36*
Exoterica *XGMLNormalizer v1.2e3.2*
Exoterica *Validator v2.0 EXL*
McAfee & McAdam *Sema Mark-it v2.3*
Public Domain *sgmls*

MIL-R-28002 (Raster)
SUN SparcStation 2
ArborText *g42tiff*
Carberry *CADLeaf Plus v3.1*
AFCTN *validg4*
AFCTN *calstb.475*
IDA *IGESView v3.0*
Island Graphics *IslandPaint v3.0*
PC 486/50
AFCTN *validg4*
IDA *IGESView Windows*
Inset Systems *HiJaak v2.1*
Inset Systems *HiJaak Window v1.0*
Corel *Ventura Publisher*

MIL-D-28003 (CGM)
SUN SparcStation 2
ArborText *cgm2draw*
Island Graphics *IslandDraw v3.0*
Carberry *CADLeaf Plus v3.1*
PC 486/50
Advance Technology Center
(ATC) *MetaView R 1.12*
ATC *MetaCheck R 2.05*
Software Publishing Corporation
(SPC) *Harvard Graphics v3.05*
Inset Systems *HiJaak v2.1*
Inset Systems *HiJaak v1.0 Windows*
Micrografx *Designer v3.1*
Micrografx *Charisma v2.1*
Corel *Ventura Publisher*

**Standards
Tested:**
MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A
MIL-R-28002A
MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool v1.2.9* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility without any reported errors.

The tape was read using TI's *Tapetool v1.0.1*.

The physical tape structure meets the CALS MIL-STD-1840A and ANSI x3.27.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration files. One error was reported in file D002T001. The srcsys record had

an extra space after the colon, which is acceptable and not
an error. However, the extra space should have been re-
moved.

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L591/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Value contains leading spaces.
*** NOTE - Correction made in new Document Declaration Header File.

This portion of the tape meets the CALS MIL-STD-1840A re-
quirements.

4. IGES Analysis

The tape contained one IGES file. This file was evaluated
using IDA's *Parser/Verifier* set for CALS Class I. No CALS
errors were reported during this procedure.

The AFCTB has several tools for viewing IGES files. These
tools are not used to generate a pass/fail but to report how
commercially available software can handle the files. Many
of these products are used in the development of technical
publications and are good indicators of usability. The use
of these products is not an endorsement nor an indication of
CALS capability. All operations were performed using the
default settings.

The file was converted using ArborText's *iges2draw* utility
with no reported errors. The resulting file was read into
Island Graphics' *IslandDraw* and displayed. When viewed on
the screen only part of the image was displayed on the left
side of the screen. Using a switch on the *iges2draw* soft-
ware, the resulting file could be completely displayed. The
error was traced to a left base line of -3 which the basic
iges2draw utility could not handle.

The file was read using AUTODESK's *AutoCAD R12* with trans-
lator version 5.1.

The file was converted using Cadkey's *ig2c* utility. The
resulting file was read into *Cadkey* and displayed.

The file was read into Carberry's *CADLeaf* software without a reported error. However, only part of the image was displayed. This is the result of the -3 value for the left start point of the image file.

The file was read using IDA's *IGESView* and *IGESView for Windows*.

The IGES file meets the CALS MIL-D-28000A specification.

5. SGML Analysis

The tape contained two DTD and two Text files. Both sets of files were evaluated using available tools in the AFCTB.

The AFCTB has several parsers available for evaluating submitted DTD and Text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or Text files required by each system are not documented in the report.

5.1 File Set One

This file set was a unique set with many tokens in both the DTD and sample Text file.

The Text and DTD files from the tape were evaluated using Datalogics' *ParseStation*. No errors were reported.

The Text and DTD files from this document were evaluated using Exoterica's *Validator ex1* parser with no reported errors.

The Text and DTD files from this document were tested using Exoterica's *XGMLNormalizer* parser with no reported errors.

The Text and DTD files from the tape were evaluated using McAfee & McAdam's *Sema Mark-it* parser with no reported errors.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser with no reported errors.

The first document set meets the CALS MIL-M-28001A specification.

5.2 File Set Two

The Text and DTD files from the tape were evaluated using Datalogics' *ParseStation* with no reported errors.

The Text and DTD files from this document were evaluated using Exoterica's *Validator exl* parser with no reported errors.

The Text and DTD files from this document were tested using Exoterica's *XGMLNormalizer* parser with no reported errors.

The Text and DTD files from the tape were evaluated using McAfee & McAdam's *Sema Mark-it* parser with no reported errors.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser with no reported errors.

The second file set meets the CALS MIL-M-28001A specification.

6. Raster Analysis

The tape contained one Raster file. This File was evaluated using the AFCTN *validg4* utility. This program reported that the file meets the CALS MIL-R-28002A specifications.

The file was read into the AFCTN *calstb.475* viewing utility. The images appeared to be scanned in at a slight angle. Some orphan pixels were noted.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The file was converted using ArborText's *g42tiff* utility without a reported error. The resulting file was read into Island Graphics' *IslandPaint* and displayed.

The Raster file was read into Carberry's *CADLeaf* software without a reported error and was displayed.

The file was read into IDA's *IGESView* and *IGESView for Windows* without a reported error.

The file was read into Inset Systems' *HiJaak for Windows* without a reported error.

The file was converted using Inset Systems' *HiJaak for DOS* into an IMG format without a reported error. The resulting file was read into Corel's *Ventura Publisher* and displayed.

The Raster file was converted using Rosetta Technologies' *Prepare* without a reported error. The resulting file was read into *Preview* and displayed.

The Raster file meets the CALS MIL-R-28002A specification.

7. CGM Analysis

The tape contained one CGM files. The file was evaluated using ATC's *MetaCheck* with CALS options. This utility reported that the file meets the CALS MIL-D-28003 specification.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor and indication

of CALS capability. All operations were performed using the default settings.

The CGM file was converted using ArborText's *cgm2draw* utility without a reported error. The resulting file was read into Island Graphics' *IslandDraw*, displayed and printed. It was noted that some text overflow occurred in the text in the bottom of the entity boxes.

The file was viewed using ATC's *MetaView* software. This program displayed the image with font errors.

The file was read into Carberry's *CADLeaf* software and displayed. No errors were noted.

The file was read into Inset Systems' *HiJaak for Windows* with a reported error. The file would not load and the program aborted.

The file was imported directly into Island Graphics' *IslandDraw* without a reported error. Text overflow in the restricted text entity was noted. Also noted was errors in the elliptical arc, both open and closed.

The file was imported into the Micrografx *Designer* without a reported error. However, nothing was displayed on the screen. When the file was imported into *Charisma*, an error was displayed indicating that the complete file could not be loaded.

According to Michael Harrison of Micrografx, "Micrografx is aware of the problems associated with reading these files and is working on a solution to be implemented in a future release of our products."

The file was imported into SPC's *Harvard Graphics 3.05* with reported errors. The resulting file was not usable with line and circles spread around image.

An attempt to imported into Corel's *Ventura Publisher* resulted in an error message indicating that the file was not a valid CGM file.

The CGM file is reported as meeting the CALS MIL-D-28003 specification.

8. Conclusions and Recommendations

The tape from Northrop Corporation had no reported errors during the evaluation of the physical structure. The tape meets the CALS MIL-STD-1840A requirements.

The IGES file meets the CLAS MIL-D-28000A Class I specification.

The SGML files meet the CALS MIL-M-28001A specification.

The Raster file meets the CALS MIL-R-28002A specification.

The CGM file meets the CALS MIL-D-28003 specification.

The tape submitted by Northrop meets the CALS MIL-STD-1840A requirements.

9.   Appendix A - Tapetool Report Logs

9.1   Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release 9 (O)

    Standards referenced:
      MIL-STD-1840A (1987) - Automated Interchange of Technical Information
      ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                          for Information Interchange
      ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Jun 10 13:55:03 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/u129/Set015

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000003	Extracted
D001H003	Output Specification	D/00260	02048/000016	Extracted
D002T001	Text	D/00260	02048/000002	Extracted
D002C002	CGM	F/00080	00800/000006	Extracted
D002R003	Raster	F/00128	02048/000017	Extracted
D002Q004	IGES	F/00080	02000/000012	Extracted
D002G005	DTD	D/00260	02048/000010	Extracted
D002H006	Output Specification	D/00260	02048/000061	Extracted

Catalog Process terminated normally.

9.2   Tape Evaluation Log

```
CALS Test Network Tape Evaluation - Version 1.2; Release 9 (O)
   Standards referenced:
      ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                           for Information Interchange
      ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Jun 10 13:54:48 1993
ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01                  CONTROLLER                                4

   Label Identifier: VOL1
   Volume Identifier: ITDS01
   Volume Accessibility:
   Owner Identifier:
   Label Standard Version: 4

HDR1D001            ITDS0100010001000100 93158 93158 000000  CONTROLLER

   Label Identifier: HDR1
   File Identifier: D001
   File Set Identifier: ITDS01
   File Section Number: 0001
   File Sequence Number: 0001
   Generation Number: 0001
   Generation Version Number: 00
   Creation Date:  93158
   Expiration Date:  93158
   File Accessibility:
   Block Count: 000000
   Implementation Identifier:   CONTROLLER


                 <<<<< PART OF LOG REMOVED HERE >>>>>

########### End of Volume ITDS01 #############
########### End Of Tape File Set #############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release 9 (O)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Thu Jun 10 13:55:03 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set015

Found file: D001

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/UB
E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: STPRO25.2.4
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930607
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT, Techne
4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.2.4
dstrelid: NONE
dtetrn: 19930607
dlvacc: NONE
filcnt: T1, H1, G1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: DIRECTIVE
docttl: Test of error reports

              <<<<< *PART OF LOG REMOVED HERE* >>>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

Found file: D002

Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/U
E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Value contains leading spaces.
*** NOTE - Correction made in new Document Declaration Header File.
srcdocid: STPRO25.2.5
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930607
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT, Techne
4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.2.5
dstrelid: NONE
dtetrn: 19930607
dlvacc: NONE
filcnt: T1, H1, G1, C1, Q1, R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: DIRECTIVE
docttl: Test of local directives

1 error(s), 0 warning(s), and 1 note(s) were encountered
in Document Declaration File D002.

<<<<< *PART OF LOG REMOVED HERE* >>>>>

Saving Output Specification Header File: D002H006_HDR
Saving Output Specification Data File: D002H006_OS

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

A total of 1 error(s), 0 warning(s), and 1 note(s) were
encountered in Document D002.

A grand total of 1 error(s), 0 warning(s), and 1 note(s) were
encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detailed IGES Analysis

10.1   File D002Q004

10.1.1   Parser/Verifier Log

```
*************************************
*****   IGES PARSER/VERIFIER   *****
*****         MARCH 1993       *****
*****   IGES Data Analysis     *****
*****       (708) 344-1815     *****
*************************************


Input file is /novell/9362/q004.igs

Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

Today is June 10, 1993  3:39 PM


*************************************
*****    CHECK FILE SYNTAX     *****
*************************************

    Section        Records

    Start            7
    Global           3
    Directory       82  (     41 Entities)
    Parameter      192
    Terminate        1
```

NITPICK 2489: Excess precision in real constant (3.57988857) for XS of D   3.
NITPICK 2489: Excess precision in real constant (3.8421068) for YS of D   3.
NITPICK 2489: Excess precision in real constant (-1.51611172) for Data.Pts[1].X
             of D   7.
NITPICK 2489: Excess precision in real constant (1.79096268) for Data.Pts[1].Y
             of D   7.
NITPICK 2489: Excess precision in real constant (-1.50860761) for Data.Pts[2].X
             of D   7.
NITPICK 2489: Excess precision in real constant (1.83739446) for Data.Pts[2].Y
             of D   7.
NITPICK 2489: Excess precision in real constant (-1.48984741) for Data.Pts[3].X
             of D   7.
NITPICK 2489: Excess precision in real constant (1.82801424) for Data.Pts[3].Y

```
                        of D      7.
NITPICK 2489: Excess precision in real constant (-1.46029996) for Data.Pts[4].X
                        of D      7.
NITPICK 2489: Excess precision in real constant (1.78345858) for Data.Pts[4].Y
                        of D      7.
NITPICK 2489: Messages regarding excess precision suppressed.
```

```
    ***********************************
    *****  SUMMARY AND STATISTICS  ****
    ***********************************
```

*** File and Product Name Information ***

```
    File name from sender   = 'Q004.iges'
    File creation Date.Time = '930607.135403'
    Model change Date.Time  = ''
    Author                  = 'tom'
    Department              = 'GRAPHICS'
    Product name from sender = 'Q004.iges'
    Destination product name = 'Q004.iges'
```

*** Parameter Delimiters ***

```
    Delimiter  = ','
    Terminator = ';'
```

*** Originating System Data ***

```
    System ID             = 'ITDS CONVERTER: GEF_IGES'
    Preprocessor version  = '1.0'
    Specification version = 6 (IGES 4.0)
```

*** Precision levels ***

```
    Integer bits =    32
    Floating point  - Exponent =    38  Mantissa =     6
    Double precision - Exponent =   308  Mantissa =    15
```

*** Global Model Data ***

```
    Model scale             = 1.0000E+00
    Unit flag               = 1
    Units                   = 'IN'
    Line weights            = 3
    Maximum line thickness  = 1.000000E-02
    Minimum line thickness  = 3.333333E-03
    Granularity             = 1.000000E-03
    Maximum coordinate      = 2.954101E+00
```

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status: Visible   41
              Blanked   0

Independence: Independent   39
              Physically Subordinate   0
              Logically Subordinate   2
              Totally Subordinate   0

Entity use: Geometry   39
              Annotation   2
              Definition   0
              Other   0
              Logical/Positional   0
              2D parametric   0
              Construction geometry   0
              Not Specified   0

Hierarchy: Structure DE applies   0
              Subordinate DE applies   41
              Hierarchy property applies   0
              Not Specified   0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
106 path)	11	0	24	Copious data - Piecewise planar, linear string(2D
106	63	0	8	Simple closed planar curve
110	0	0	6	Line
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	41

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   41

*** Line Fonts Used in Data ***

100   102   104   106   108   110   112   114

    -     -   -   -   -   -   -   -   Undefined
    -     -   -   32   -   6   -   -   Solid
    -     -   -   -   -   -   -   -   Dashed
    -     -   -   -   -   -   -   -   Phantom

                        <<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Line Widths Used in Data ***

     Weight   Count   Width

  Defaulted   31   (0.0033)
          2   10   (0.0067)

*** Colors Used in Data ***

  Defaulted   3
        Red   8
      Green   30

****
*****   ENTITY ANALYSIS   *****
****

*** Entity type: 106

*** Entity type: 110

  --   6 lines averaging 1.362447E-01 units --

*** Entity type: 404

Drawing at D   5 contains 1 view.
Drawing at D   5 contains 0 annotation entities.
WARNING 2492: Undefined line font value (0) specified for D   5.

*** Entity type: 406

WARNING 2492: Undefined line font value (0) specified for D   3.

 *** Entity type: 410

  Scale of view at D   1 is 1.000000E+00.
Orthographic View entity at D   1 has 0 clipping planes specified.
    XMIN = Not Set   XMAX = Not Set
    YMIN = Not Set   YMAX = Not Set
    ZMIN = Not Set   ZMAX = Not Set

WARNING 2492: Undefined line font value (0) specified for D   1.

 *** Message Summary ***

2038: 3 Invalid Line font values.

 *** Error Summary ***

      0 fatal errors
      0 severe errors
      0 errors
      3 warnings
      0 cautions
    842 nitpicks
      0 notes

 *** End of Analysis of /novell/9362/q004.igs ***

10.1.2 Parser Log - AutoCAD R12

```
Title: IGESIN Journal (v5.1 Nov 05 1992)
=================================================================
File: C:\Q004.xli
Date: Thu, Jun 10, 1993
Time: 16:24:30
=================================================================

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N:   117-10075750
Translating from IGES file:        C:\Q004.IGS
          to AutoCAD Drawing:      UNNAMED.dwg


=================================================================

Options obtained from:  default settings

Curves Approximated to Tolerance of          0.01

Surfaces Approximated to Tolerance of         0.01
```

Text Font/Style mapping:

IGES Text font	Style Name	ACAD Font
0	SYMBOL0	iges0
1	STANDARD	txt
2	LEROY	txt
3	FUTURA	txt
6	COMP80	txt
12	GOTHICE	gothice
13	GOTHICI	gothici
14	ROMANS	romans
17	ROMANT	romant
18	ROMAND	romand
19	OCR	txt
1001	SYMBOL1	iges1001
1002	SYMBOL2	iges1002
1003	SYMBOL3	iges1003
2001	KANJI	bigfont

IGES Linefont/AutoCAD Linetype mapping

IGES Line Font	AutoCAD linetype	Shape file
0	BYLAYER	
1	CONTINUOUS	
2	DASHED	acad.lin

```
       3                    PHANTOM          acad.lin
       4                    CENTER           acad.lin
       5                       DOT           acad.lin
```

==

Parse phase

==
Start Section:

CONFORMANCE:
  MIL-D-28000 Amendment1, 20 December 1988
  Technical Illustration Class I Subset

ILLUSTRATION IDENTIFIER:
  Q004.iges

Global Section:

```
Parameter Delimiter:      ,
Record Delimiter:         ;
Sending Product ID:       Q004.iges
File Name:                Q004.iges
System ID:                ITDS CONVERTER: GEF_IGES
Preprocessor Version:     1.0
Size of Integer:          32
Sgl. Precision Mag:       38
Sgl. Precision Sig:       6
Dbl. Precision Mag:       308
Dbl. Precision Sig:       15
Receiving Product ID:     Q004.iges
Model Space Scale:        1.000000
Unit Flag:                1
Unit String:              IN
# of Line Weights:        3
Maximum Line Width:       0.010000
Creation Date:            06/07/93 13:54:03
Minimum Resolution:       0.001000
Maximum Coordinate:       2.954101
Author:                   tom
Organization:             GRAPHICS
IGES Version Number:      6
Drafting Standard:        0
```

Entity Summary:

Type	Form	Description	Count
106	11	Planar Piecewise Linear Curve	24
106	63	Simple Closed Planar Curve	8
110	0	Line	6
404	0	Drawing (form 0)	1
406	16	Property (Drawing Size)	1
410	0	View	1
		Total	41

Translation phase

Drawing Entity (404 Form 0) at DE 5, with
    name = ,
    size = 3.579889, 3.842107,
    units = IN,
was processed in the AutoCAD drawing file: C:\UNNAMED.dwg

*** Warning (ACAD_NEW_VIEW_VOLUME_GENERATED) ***
(DE: 1 TF: 410:0)
A new view volume has been generated for the view with:
 XMIN (-3.565349), XMAX (0.844311),
 YMIN (-1.296656), YMAX (3.362281),
 ZMIN (-0.500106), ZMAX (0.500106).

IGES Entity Summary

Type	Form	Description	Count	Processed	Errors
106	11	Planar Piecewise Linear Curve	24	24	0
106	63	Simple Closed Planar Curve	8	8	0
110	0	Line	6	6	0
404	0	Drawing (form 0)	1	1	0
406	16	Property (Drawing Size)	1	1	0
410	0	View	1	1	0
Totals			41	41	0

AutoCAD Entity Summary

Entity	Created	Errors
LINE	6	0

POLYLINE   32   0

 Totals   ======= ======
                38   0
==
Error Summary:

The following message was issued 1 time(s)
A new view volume has been generated for the view with:
 XMIN (%lf), XMAX (%lf),
 YMIN (%lf), YMAX (%lf),
 ZMIN (%lf), ZMAX (%lf).

Status: 0
Warning: 1
Error: 0
Fatal: 0

Elapsed Time:

Processor: 00:00:06
Clock: 00:00:06
==

10.1.3 Output AutoCAD R12
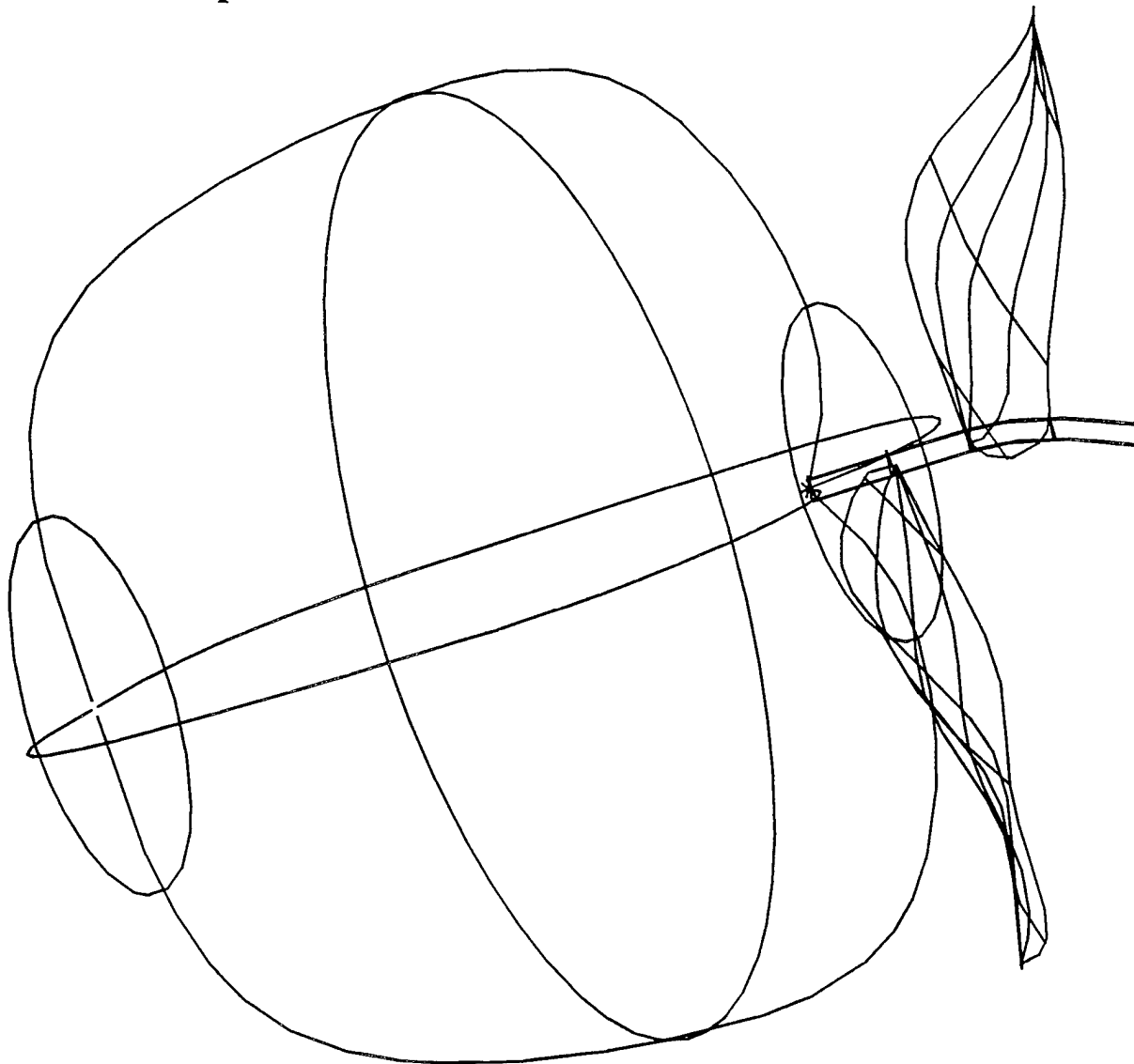
11. Appendix C - Detailed SGML Analysis

11.1 Exoterica Validtor 2.0 exl

```
<!-- Entity has no name, system id or public id in formal file -->.
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "ENTRY".
   ((((#PCDATA|xref|change|emphasis|hcp|hci|ocp|
       ^^^^^^
-->
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "NOTICE".
   ((((#PCDATA|xref|change|emphasis|hcp|hci|ocp|
       ^^^^^^
-->
<!-- **Warning** in "9362-2.sgm", line 429:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "RESULT".
   <!ELEMENT result    - o (%text;,faultcode?)>
                                          /\
-->
<!-- **Warning** in "9362-2.sgm", line 629:
   There is no element with an IDREF or IDREFS attribute value equal to a
   specified ID value.
   The unreferenced ID attribute value is "X0".
-->
<!-- 4 warnings reported. -->
```

12. Appendix D - Detailed Raster Analysis

12.1 File D002R003

12.1.1 Output HiJaak for Windows

U.S. ARMY MATERIEL COMMAND U.S. ARMY MISSILE COMMAND REDSTONE ARSENAL, ALABAMA			PARTS LIST	PL 10677287 CODE IDENTIFICATION NO. 18876					
TITLE OSCILLATOR,VOLTAGE CONTROLLED-COMO-A3A13	URAMCOM 63343	DATE 16 NOV 70 REV -	SHEET 3 OF						
FIND NO.	PART OR IDENTIFICATION NO.	DRAWING OR SPECIFICATION NO.	NOMENCLATURE	QUANTITY	PL	KI	EFFECTIVITY - FROM	TO	ZONE	NOTES OR REMARKS
	10181751-207	10181751	RESISTOR							
	10181751-208	10181751	RESISTOR							
	10181751-209	10181751	RESISTOR							
	10181751-210	10181751	RESISTOR							
	10181751-211	10181751	RESISTOR							
	10181751-212	10181751	RESISTOR							
	10181751-213	10181751	RESISTOR							
	10181751-214	10181751	RESISTOR							
	10181751-215	10181751	RESISTOR							
2	10181752-261	10181752	RESISTOR	1						
3	10181752-357	10181752	RESISTOR	1						
4	10181751-147	10181751	RESISTOR	2						
5	10180306-239	10180306	RESISTOR	2						
6	10181751-133	10181751	RESISTOR	1						
7	10181751-166	10181751	RESISTOR	1						
8	10180328-418	10180328	RESISTOR	1						
9	10181752-283	10181752	RESISTOR	1						
10	10181752-298	10181752	RESISTOR	1						
11	10181752-306	10181752	RESISTOR	1						
12	10181752-297	10181752	RESISTOR	1						
13	10181752-289	10181752	RESISTOR	1						
14	10181752-271	10181752	RESISTOR	1						
15	10181752-310	10181752	RESISTOR	1						
16	10181751-55	10181751	RESISTOR	1						1
	10181751-1	10181751	RESISTOR							
	10181751-2	10181751	RESISTOR							
	10181751-3	10181751	RESISTOR							
	10181751-4	10181751	RESISTOR							
	10181751-5	10181751	RESISTOR							
	10181751-6	10181751	RESISTOR							

13. Appendix E - Detailed CGM Analysis

13.1   File D002C002

13.1.1   Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/10/93     Time:  16:15:52


Metafile Examined    : i:\9362\c002.cgm


Pictures Examined    : All
Elements Examined    : All
Bytes     Examined   : All


====================== Trace Report =======================

Tracing not selected.

============== CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/10/93     Time:  16:15:54

Name of CGM under test: i:\9362\c002.cgm
Encoding               : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes     Examined   : All


BEGIN METAFILE string : "C002.cgm"
METAFILE DESCRIPTION   : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"
```

Picture 1 starts at octet offset 200; string contains: "Picture 1"

Conformance Summary : This file conforms to the CGM specification.
                        This file meets the CALS CGM Profile (MIL-D-28003).
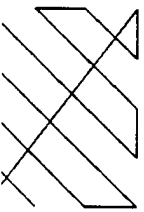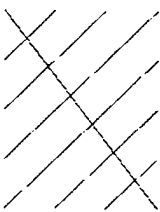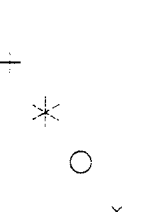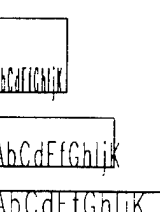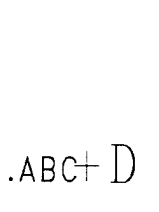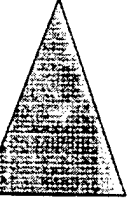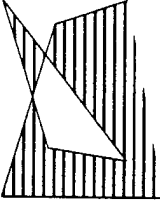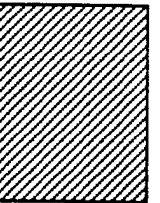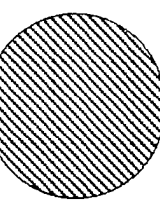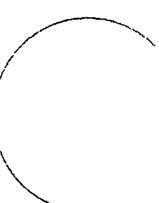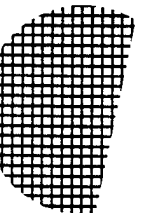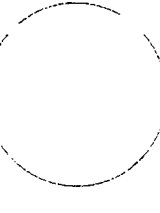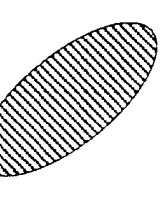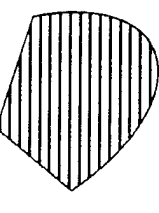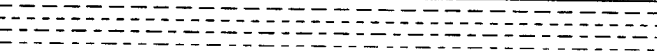
Summary of Testing Performed and Errors Found:

        1 Pictures Tested
      272 Elements Tested
     3978 Octets Tested
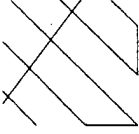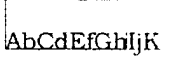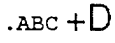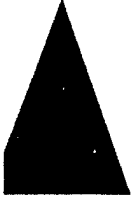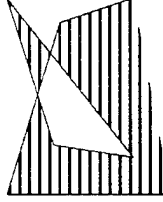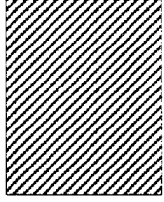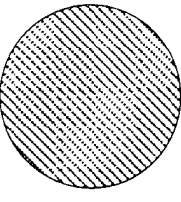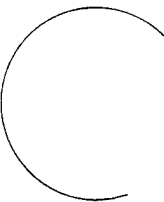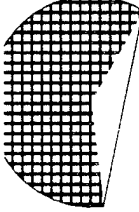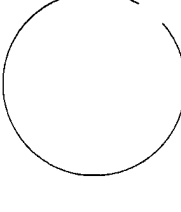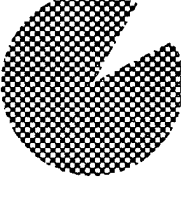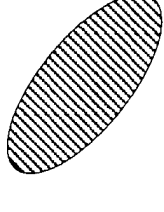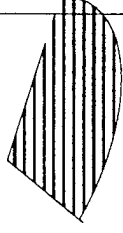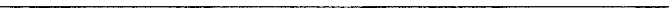
```
==================================
|     No Errors Were Detected     |
==================================
```

================= End of Conformance Report ==================

13.1.2 Output cgm2draw/IslandDraw

POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 POINT
4) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTICAL ARC CLOSE

LINE TYPE

CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03

13.1.3 Output IslandDraw

OLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
OLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 POINT
CIRCULAR RC 3 POINT LOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTICAL ARC CLOSE

LINE TYPE

CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03

13.1.4   Output Harvard Graphics